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OSA-1392/66

9 May 1966

MEMORANDUM FOR: Deputy for Field Activities, OSA

SUBJECT : Water Survival

1. A new method of survival swimming has been accepted for use by the U.S. Marine Corps. This method is revolutionary and will undoubtedly be approved by all branches of the service in time. We propose that this method be taught [redacted] as soon as possible.

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2. [redacted] is obtaining training materials and will forward them to the Detachments. It is requested that the three Survival Technicians [redacted] be required to qualify as instructors, as described in the enclosure, within sixty days. Following this training they will qualify the new Survival Instructors [redacted] (due to report for duty in sixty days) and commence training mission pilots. All mission pilots should be able to remain afloat for one hour and swim one mile, using this method, in less than sixty days following initial instruction.

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3. This training will also be included in the [redacted] Survival Syllabus.

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USMC review(s) completed.

[redacted]
Acting Chief, Intelligence Division
Office of Special Activities

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Attachment (1)
As stated above

ID/OSA [redacted] (9 May 1966)

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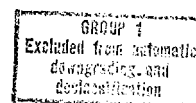
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S E C R E T



MARINE CORPS ADOPTS DROWNPROOFING

The Marine Corps has recently completed an extensive evaluation of the method of water survival called Drownproofing. This evaluation was conducted at the Marine Corps Recruit Depot, Parris Island, South Carolina over a six month period during which Drownproofing instruction was given to more than 14,000 Marine recruits. The results of this evaluation conclusively establish Drownproofing as superior to any other known method of water survival. This system of water survival training has been adopted by the Marine Corps and will replace the swimming instruction formerly given to all Marine personnel.

Drownproofing was developed by the late Fred Lanoue, Professor of Physical Education at the Georgia Institute of Technology. It is a set of simple skills and attitudes that will keep anyone alive in deep water indefinitely, even when fully clothed. This technique is based on basic flotation principles and psychological indoctrination designed to completely eliminate fear of the water under any conditions. Professor Lanoue was stricken with a cerebral hemorrhage and died a few days after he had begun to teach the Marines about his system.

Although Drownproofing has been taught at the Georgia Institute of Technology for twenty years, and is utilized by the Peace Corps, the Marines are the first military service to formerly adopt this method of water survival training. A comparison between Drownproofing and the old method of swimming instruction formerly utilized in the Marine Corps illustrates the substantial advantages acquired through Drownproofing. The minimum requirement for all Marines to become 2nd class swimmers required the individual to swim at least one hundred yards in bathing trunks; to be Drownproofed all Marines must be able to remain afloat in deep water for one hour while fully clothed and be able to travel a minimum of 75 yards fully clothed and carrying their rifle.

The Marine Corps will retain their swimming program until sufficient instructors have been trained to provide a Corps-wide Drownproofing capability. A school for Drownproofing instructors has been established at Parris Island to support the Drownproofing Program.

AN EVALUATION OF DROWNPROOFING
AS CONDUCTED BY THE MARINE CORPS RECRUIT,
DEPOT, PARRIS ISLAND, SOUTH CAROLINA

1. Background. On 17 March 1965 Mr. Fred Lanoue, Georgia Tech swimming coach and inventor of a new method of water survival called "Drownproofing", arrived at Marine Corps Recruit Depot, Parris Island to present a clinic on his system. This clinic was arranged through correspondence between Headquarters Marine Corps (Code AO3C), this Headquarters, and Mr. Lanoue in an effort to improve the ability of Marines to survive in the water. Although Mr. Lanoue was unable to complete the clinic because of his sudden illness and death, his work was finished by his assistant, Mr. Charles Wiggin during April 1965. The favorable results obtained with two recruit platoons led to a six month evaluation of the system ordered at this Depot. From May through November 1965 all recruits have been given seven hours of instruction in the Drownproofing method.

2. Conduct of Evaluation

a. The months of May and June were devoted to refining the instruction techniques and in experimenting with different methods of teaching. It was determined that in order to handle the recruit load, two platoons must be instructed simultaneously, and that this was feasible in the 25 x 50 meter pool available at Parris Island. Various methods of initial evaluation of the recruits' ability and buoyancy were used. Experiments were made as to proper division of the men to afford the greatest progress for recruits of varying ability. By the end of June the lesson plans were standardized and only minor changes in instructional procedures were required thereafter.

b. Standards for qualification in drownproofing were established as follows:

(1) Jump into water from height of ten feet.

(2) In full utility uniform, stay afloat for one hour in deep water without touching side. Boots may be removed after five minutes.

(3) In full utility uniform, with boots, swim 75 yards with rifle.

c. From 1 July through 31 October all recruits received seven hours of Drownproofing training. Those failing to achieve the above standard were given an additional hour in which they were tested as second class swimmers under the standards of MCO 1510.2D.

3. Statistical Results

a. July-November 1964

Recruits Trained	Hours per Recruit	% 2d Class	% 1st Class
10,526	10	83.4	2.4

b. July-November 1965

Recruits Trained	Hours per Recruit	% 2d Class	% Drownproofed
14,658	7	75.1	45.8

4. Discussion

a. The theory and mechanics of Drownproofing are thoroughly covered in reference (b). Full appreciation of the technique cannot be gained, however, without actually trying it in the water. From either reading the book or observation of the training it does not appear to be substantially different from conventional training previously used. In fact, the technique is revolutionary. Drownproofing is a method of water survival, employing the natural buoyancy of the human body. It requires that the body and head remain at rest near the surface, but under water except during the breathing cycle. It requires minimum movement. For the small percentage of men with negative buoyancy, a modified technique is used employing slightly more effort but still remaining completely submerged except during the breathing cycle. In all other known systems, resting is done with the head out of the water. To the uninitiated keeping the head under water is unnatural and uncomfortable, yet this is the key to the technique. Once mastered, the individual can survive indefinitely under any water conditions until overcome by exposure or starvation. Physical condition is of no consequence--cramps or injury will not affect survival. The technique is effective if any one of the four limbs is functioning.

b. Conventional swimming demands confidence, coordination and physical stamina. Drownproofing requires a basic knowledge of these fundamentals and a great deal of mental discipline.

c. The problem in teaching drownproofing is to instill in the student the motivation required to overcome his discomfort and natural reaction and continue the technique until it becomes automatic. Experience has shown that most students learn the movements rapidly, but that in executing the technique, they become uncomfortable after 10 to 15 minutes; many give up at this time and resort to previously learned swimming techniques or panic. Those who have the motivation to force themselves to continue through this period master the technique, and after 40 to 50 minutes find it automatic. The instructor teaches about 10% technique and 90% motivation. For this reason the quality of the lectures is of primary

importance. While personal mastery of the technique is essential to the instructor, he must be selected on the basis of his ability to present the lectures adequately. During the evaluation here, the most successful instructor was the poorest swimmer in the group, but he was an experienced senior Drill Instructor with a great understanding of his men.

d. All the instructors used during the evaluation were well qualified in teaching the drownproofing techniques. It is believed that greater success in qualifying recruits will depend on increased competence in presenting the lectures.

e. The system can be learned only by performance. Therefore, long periods must be spent in the water. With large numbers of men in the pool practicing the technique for long periods, safety is a problem. The pool must be divided into segments with an observer knowing the number of men in his segment and responsible for their safety. These observers are in addition to the instructors whose attention is devoted to correction of individual errors.

f. Because of the great increase of time in the water for the drownproofing student, it is advisable to maintain the temperature of the pool at 85 to 90° degrees F. Although in variance with the recommendation of Chapter 4, paragraph 2e2 of the Manual of Naval Preventative Medicine, these temperatures are used at Georgia Tech, and frequent checks of the water at Parris Island have shown no increase in the bacteria count. In addition, correspondence with the U. S. Naval Submarine Medical Center in New London, Connecticut has disclosed that the temperature of the submarine escape tank there is maintained at an even higher level without ill effect.

g. It is believed that drownproofing instruction can be conducted at most posts and stations of the Corps with existing facilities. Where heated pools are not available, training would be confined to the summer months. The 25 x 50 meter pool at Parris Island is adequate for training up to a maximum of 1300 recruits per week.

h. The statistical results presented above are somewhat misleading. A decrease of 8.3% in the qualification rate of second class swimmers is shown. This decrease occurred because of the method and emphasis in testing. Prior to the drownproofing evaluation maximum effort was made to have every man pass this test. Each man was allowed at least four attempts to qualify with great pressure from the Drill Instructors to succeed. During the evaluation period the emphasis was placed on proper drownproofing technique and only one attempt at the second class test was given to those failing the drownproofing test. During the last two weeks of the evaluation, in order to obtain more valid statistics, 2000 recruits were given the second class swim test under the former condition. 90% of these men passed the test. This is an improvement of 6.6% over the results gained by conventional swimming instruction, although the sampling is believed too small to be conclusive.

i. Conversely, 45.8% passed the drownproofing test where previously only 2/4% passed the much easier first class swimmers test. A part of this dramatic increase is caused by a different method of carrying the rifle in the water. The principal cause of failure of the first class test was the inability of the men to swim 50 yards with the rifle. The drownproofing student is taught to hang the rifle from his neck with the sling, and nearly all the men who pass the one hour stay afloat test are able to complete 75 yards with the rifle without difficulty.

j. During the initial study of the water safety instruction in the Marine Corps it was postulated that Marines need two basic abilities in the water:

(1) To remain afloat in deep rough water for long periods of time in the event of falling overboard or being sunk.

(2) To reach the beach with his boots and rifle from relatively short distances from deep water or through surf.

The basic drownproofing tests shown in enclosure (1) were developed from these requirements. The instruction time required to meet these tests varies with the experience of the student, his motivation and his confidence in the water. Based on the work with recruits and with the Drill Instructors, it is believed that in excess of 90% of all Marines could be qualified with 15 to 20 hours of instruction. Many Drill Instructors who were unqualified swimmers have been qualified within this time frame. With full scheduling of the Parris Island pool with an average recruit load (5625) and the normal 11 week syllabus each recruit will receive eight to ten hours of instruction and 50 to 55% qualifications can be expected. A program of required annual training for unqualified swimmers in regular units may be expected to raise this figure above the 90% level.

k. More swimming instructors are required to teach drownproofing than were needed previously. This is caused by the increased numbers of recruits in the pool for long periods, wherein individual instruction is required, and by the increase in training hours per recruit. Under the old syllabus recruits who were able to swim received a maximum of three hours of water safety instruction with the unqualified recruits getting ten hours. In the drownproofing syllabus all recruits have received seven hours of instruction with the unqualified getting ten under the normal syllabus and eight under the reduced syllabus. Twelve instructors are required to support this training under normal loads with augmentation required to provide eighteen instructors at maximum loads.

5. Conclusions

a. Drownproofing is superior to any other known teaching method for providing Marines the ability to survive in the water.

b. Approximately 50% of the men can be made safe in the water with seven to ten hours of instruction in recruit training. With ten additional hours of training later in their careers, at least 90% can be made safe.

RECOMMENDED TESTS FOR MARINE CORPS
DROWNPROOFING QUALIFICATIONS

1. Tests for "Qualified Drownproof"
 - a. Enter water by jumping from height of ten feet.
 - b. Stay afloat in full utility uniform for one hour.
 - c. Traverse 75 yards in deep water in full utility uniform with boots and rifle.
2. Tests for Drownproofing Instructor
 - a. Pass Red Cross Senior lifesaving tests.
 - b. With feet tied together and to waist (Buddha style).
 - (1) Stay afloat ten minutes.
 - (2) Travel 50 yards.
 - (3) Execute front and back somersault in water.
 - (4) Surface dive and retrieve boot from bottom in ten feet of water.
 - (5) Swim under water 40 feet.
 - (6) Untie feet.
 - c. With hands tied behind back execute (1) through (5) above.
 - d. With hands tied behind back and feet tied together
 - (1) Jump in water, swim twenty feet and return.
 - (2) Float in deep water for twenty breaths.
 - (3) Execute front and back somersaults in seven feet deep water.

- e. Swim 50 yards under water.
- f. Swim 25 yards underwater in seven strokes.
- g. Retrieve victim from bottom in deep water and carry 80 yards.
Victim must be non-floater.
- h. Demonstrate cross chest carry 100 yards.
- i. Demonstrate tired swimmers carry 50 yards.
- j. Swim one mile in full utility uniform with boots.
- k. Present satisfactory drownproofing lecture for beginners.

"DROWNPROOFING"

by

Fred Lanoue

Professor of Physical Education and Head Swimming Coach
Georgia Tech, Atlanta, Georgia

There is something new under the sun -- at least in the field of swimming. It is a deceptively simple way of combining arm and leg motions with a precise breathing technique in such a way that ANYONE with desire, irrespective of sex, age, condition, strength, or fear can stay up for hours and swim for miles after a few lessons. Except for a few medically excused people, every graduate of Georgia Tech in the last 20 years has stayed up one hour and has swum one mile wearing clothes.

This technique has been featured in LIFE, SATURDAY EVENING POST, CORONET, SCOPE, FARM JOURNAL, WASHINGTON TOWN JOURNAL, FAMILY CIRCLE, POPULAR MECHANICS, GOOD HOUSEKEEPING, READERS DIGEST and many others.

When the Peace Corps came into being, significantly "DROWNPROOFING" was immediately selected as part of the training program. This was not only because of the specific skills that so quickly produced safety in the water for those dedicated volunteers, but also because of the peculiarly valuable attitudes that result from this type of training.

For example take any college freshman class. The WHOLE class from any college -- not athletes -- not P. E. majors -- just plain ordinary freshmen. Regardless for the moment of the value you attach to the ability to swim underwater, and thinking of this in terms of measuring teaching skill -- what percent of these freshmen could be persuaded to swim fifty yards underwater? The average estimate of a cross section of the College Swimming Coaches Association is that if ALL their freshmen had to take swimming, less than five percent could do this.

Georgia Tech, teaching nothing but engineering, requires one quarter of swimming in the freshman year. In the twenty four years we have been doing this, when test day arrives not one percent have ever tried a fifty yard underwater swim. At the end of the test period our score has never dropped below 53% and for the past ten years, with improved lectures, the average is 63%. The Peace Corps - men and women - ranging in age from 18 to 68 averaged 55% doing this in salt water, which is harder.

These results are particularly intriguing in view of the fact that we emphasize before they try, that we do not consider a fifty yard swim to be of any particular value per se. The point is that we achieve these results using only one forty five minute lecture - one five minute demonstration, and one ten minute practice, CROSS POOL (40 feet) only. The next day the students get another ten minute lecture stressing hyperventilation and psychological distress patterns - then only ONE try at the test. Space does not permit us to elaborate on how this carries over to ordinary living, but we, and our students, and the Peace Corps volunteers are sure that it does. As we present it, this is not a swim test, it is an attitude test.

"DROWNPROOFERS" find cramps and injuries moderately annoying but never dangerous, because when this technique is mastered, it is just as easy to stay up with only one arm as it is with both arms and legs. The results obtained on handicapped kids with this system are fantastic. Nearly a thousand four and five year old children in the Atlanta area have stayed up one hour, swum one mile - then with ankles tied up to the waist stay up one half an hour then swim 100 yards. The same thing is repeated with hands tied together behind the back. All of this is done with clothes on, and usually with ten hours of instruction.

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People have come to Atlanta from all over the world to learn this technique and all have gone home safe and happy in the water. The author has conducted clinics all over the country under the sponsorship of Recreation Departments, schools and colleges, Foundations, YMCA, Civic Clubs and business or individual philanthropists who had a real interest in the aquatic welfare of their communities.

All "DROWNPROOFERS" feel that traditional swimming is perhaps adequate for pool and dockside swimming, but where hampering clothes, cramps and injuries, choppy waves and real distances combine to drown people in lakes, rivers, oceans, etc. -- considering that the average person never takes but one instructional course in swimming, why first waste time learning something you can't trust your life to? It is a fact that about 3,000 possessing a skill rating equal to the standard "Beginner" drown each year. Why not use that first course learning to SURVIVE FIRST and learn pretty swimming second?

My new book, "DROWNPROOFING - A NEW TECHNIQUE IN WATER SAFETY" is now available through Prentice Hall Publishers. This covers every detail of how anyone can be made safe and happy in the water through "DROWNPROOFING". It will prove invaluable either to the excessively timid non-swimmer, or the professional teacher.

HOW DOES "DROWNPROOFING" WORK, STAYING AFLOAT AND TRAVELING?

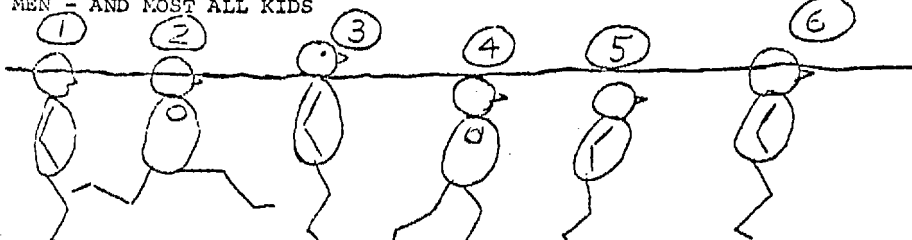
Several aspects of physics form the basis of "DROWNPROOFING". The first is that 99% of all men will remain on the surface in fresh water without moving, if they are chock full of air. About 99.99% of all women will do the same. Actually in one thousand cases of both sexes, all ages and all walks of life, only a half dozen will sink if taught to float properly. Momentum and inertia forces - plus shifting floating angles make this figure seem wrong, proper instruction proves it correct.

An average head weighs close to fifteen pounds, so as a man floats vertically (most men float nearer the vertical than the horizontal) about five pounds of meat are in the air, and with women about eight pounds protrude. These figures are general - fat and tidal air volume - muscle and bone density - air trapped in clothes - the wet weight of the clothes themselves, all are factors. If a man wants to keep his nose and mouth out of water all the time and see where he is going he must hold up with muscular energy at least five pounds all the time - during the exhale a lot more - and with clothes even more. These sound too small to be important but over a period of time it causes most of our drownings because of the steady drain of energy.

"DROWNPROOFERS" answer to this particular problem is simple - why hold any meat out of water except when it is necessary? They believe in dropping down into the water for a rest between breaths where there is a positive force always pushing them UP rather than dragging them down. Simple huh? But when you try it it's not so simple because skill is involved in breathing close to the water.

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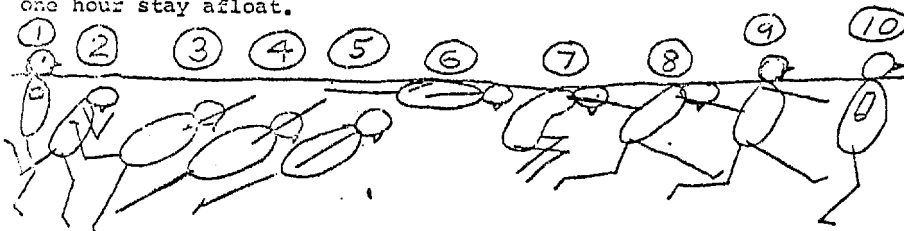
FRESH WATER STAY AFLOAT TECHNIQUE FOR PRACTICALLY ALL WOMEN - MANY MEN - AND MOST ALL KIDS



1. Rest vertically (especially the head) with arms and legs hanging. Make sure the mouth is empty by spurring water between compressed lips with tongue. DON'T blow it. 2. Get ready by extending arms side-wise, and extending one leg in front and the other in back. 3. Press feet and hands down at the same time exhaling through the nose and opening the eyes, followed immediately by inhaling through the mouth. 4. Just as the top of your head disappears below the surface give a slight downward push with arms, legs, or both, then 5. Let everything rest, dangling arms and legs during the return to the top. 6. Rest until you feel like getting a breath - NEVER UNTIL YOU NEED A BREATH. The rest interval will vary with individuals but should never be less than three seconds - should become six after a few minutes - should average ten after an hour, and many people have averaged three breaths a minute when thoroughly indoctrinated. Sinkers can stay up just as easily, but must use a different technique. The average non-swimmer easily stays up one hour, clad, without getting tired after five or six tries.

THE "DROWNPROOFERS" TRAVELING STROKE

Using the same basic breathing system and alternating it with a propulsive movement it is easy for anyone to swim an indefinite distance, certainly a number of miles. Generally the average person can do this on the second or third lesson, after successfully completing the one hour stay afloat.



1. Full of air, starting to sink. 2. Lay head forward, bring hands to shoulders, get ready to kick. 3 to 6. First extend arms - then kick - then use slow shallow sweep of arms to the sides and glide up to and along the surface with head horizontal - when you feel like getting a breath 7. extend hands forward, then bring BOTH knees as far up as possible, rounding the back, then 8. with head still down extend one foot forward without letting the other knee go back, then 9. raise the head and breathe as usual while stroking down 10.

When executing these skills under the scrutiny of uninformed lifeguards be prepared to either be rescued or banned from deep water, because to the uninitiated it appears that you are on the verge of drowning.

Fred Lanoue is Professor of Physical Education and Head Swimming Coach at the Georgia Institute of Technology, where he has been for twenty eight years. He is internationally famous as the originator of a new system of teaching swimming called "DROWNPROOFING".

"DROWNPROOFING" guarantees that - using the same number or fewer lessons than standard procedures employ - unless you are (1) pinned underwater, or (2) become unconscious in the water, or (3) try to swim from Key West to Cuba, you will survive any water accident that occurs, regardless of your age, sex, or physical condition.

This technique has appeared in LIFE, TIME, SCOPE, WASHINGTON TOWN JOURNAL, CHRISTIAN SCIENCE MONITOR, FARM JOURNAL, MECHANICS ILLUSTRATED, SATURDAY EVENING POST, FAMILY CIRCLE MAGAZINE, READERS DIGEST, and innumerable newspapers and trade magazines.

For the development of this technique, in 1959 he received the coveted "CREATIVE AWARD" of the American Academy of Physical Education, presented only three times in thirty years for outstanding original contribution to the field.

In 1961, at the request of President Kennedy and Mr. Sargent Shriver, he took a year's leave of absence from Georgia Tech to install the "DROWNPROOFING" Program in the basic training of the U. S. Peace Corps.

In 1962, he was elected to the exclusive "HELMS HALL OF FAME".

The International OUTWARD BOUND movement, pioneers in a fantastically successful type of character development, is opening new schools in the U.S.A. which will include "DROWNPROOFING" in their program.

He has served as President of the College Swimming Coaches Association of America, National Aquatic Chairman of the American Association of Health, Physical Education and Recreation, consultant to the United States Navy, National Aquatic Committee of the Y.M.C.A., Red Cross Field Representative, National Aquatic Committee of the Boy Scouts of America.

His new book, "DROWNPROOFING", Prentice Hall Publishers, is enjoying a tremendous sale both here and abroad.

He lectures all over the United States to schools, colleges, clubs, Y.M.C.A.'s, etc., and people have come from all over the United States and Canada to his own private pool to learn this technique.